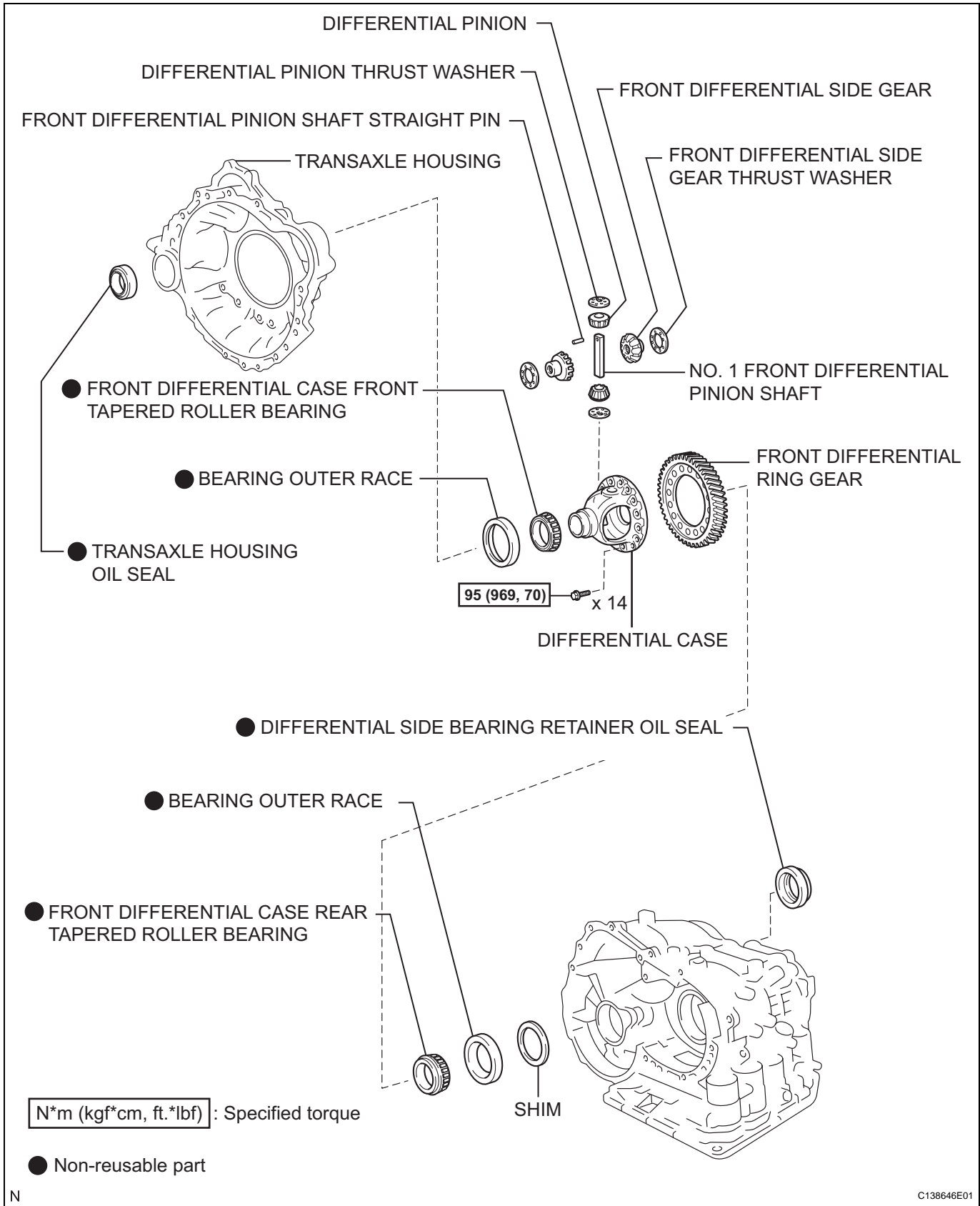


DIFFERENTIAL CASE

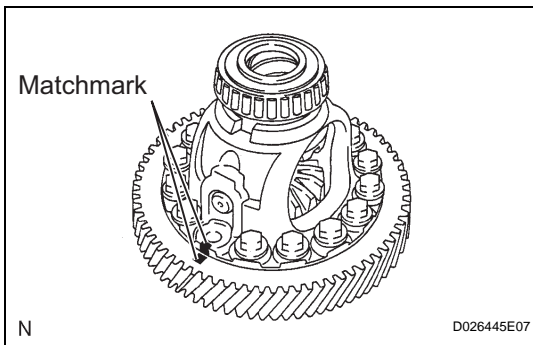
COMPONENTS



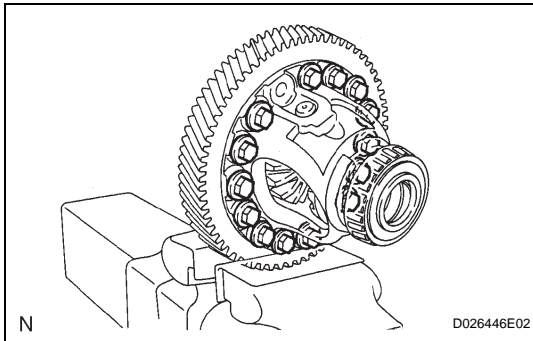
DISASSEMBLY

1. REMOVE FRONT DIFFERENTIAL RING GEAR

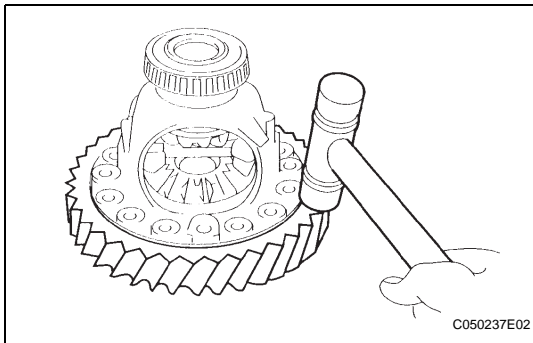
- (a) Place matchmarks on the ring gear and differential case.



- (b) Remove the 14 bolts.



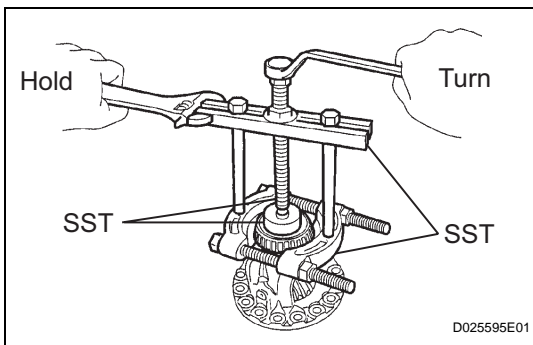
- (c) Using a plastic-faced hammer, tap on the ring gear to remove it from the case.



2. REMOVE FRONT DIFFERENTIAL CASE FRONT TAPERED ROLLER BEARING

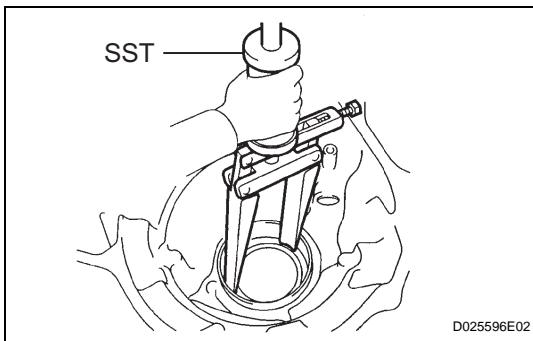
- (a) Using SST, remove the bearing from the differential case.

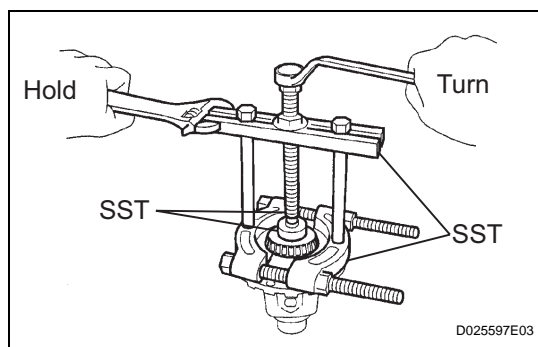
SST 09950-00020, 09950-00030, 09950-60010 (09951-00490), 09950-40011 (09957-04010)



- (b) Using SST, remove the front differential case front tapered roller bearing outer race.

SST 09308-00010

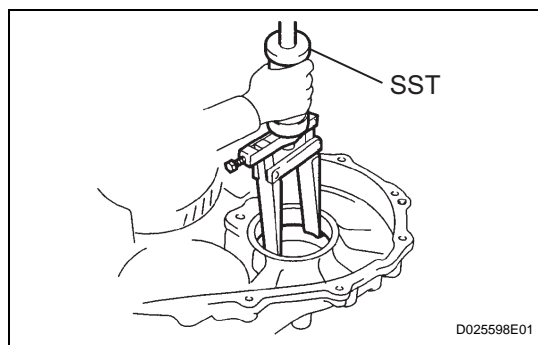




3. REMOVE FRONT DIFFERENTIAL CASE REAR TAPERED ROLLER BEARING

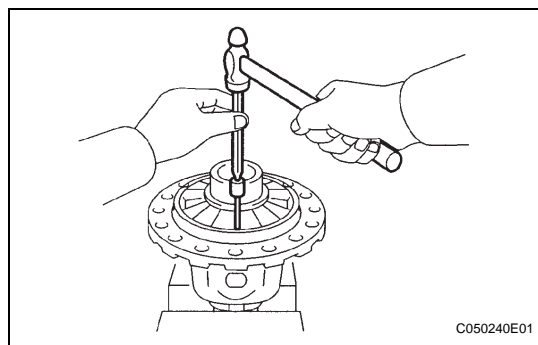
- (a) Using SST, remove the bearing from the differential case.

SST 09950-00020, 09950-00030, 09950-60010 (09951-00490), 09950-40011 (09957-04010), 09308-00010



- (b) Using SST, remove the front differential case rear tapered roller bearing outer race.

SST 09308-00010

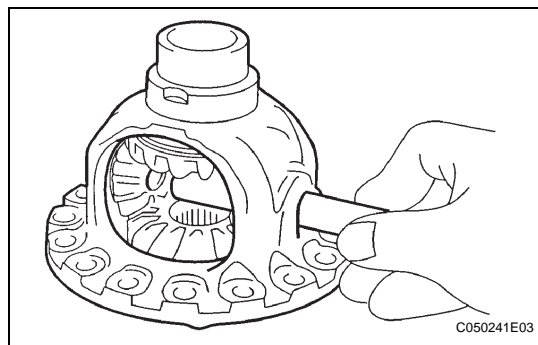


4. REMOVE FRONT DIFFERENTIAL PINION SHAFT STRAIGHT PIN

- (a) Using a pin punch and hammer, remove the straight pin.

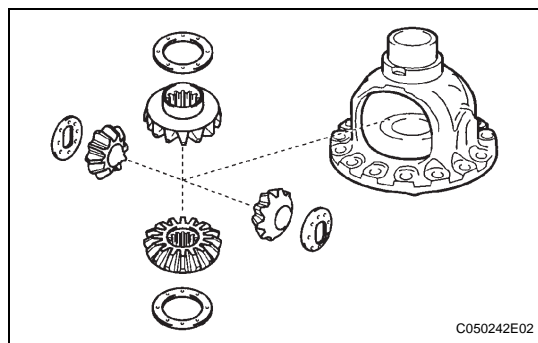
NOTICE:

Before removing the straight pin, unstake it with a pin punch.



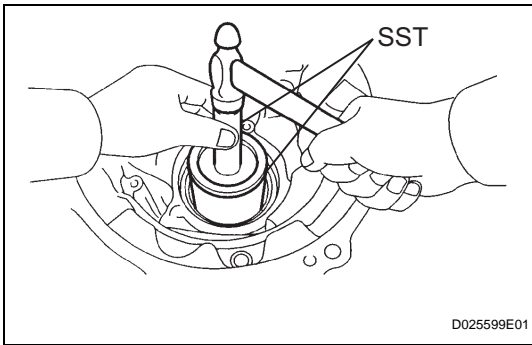
5. REMOVE NO. 1 FRONT DIFFERENTIAL PINION SHAFT

- (a) Remove the front differential pinion shaft from the differential case.



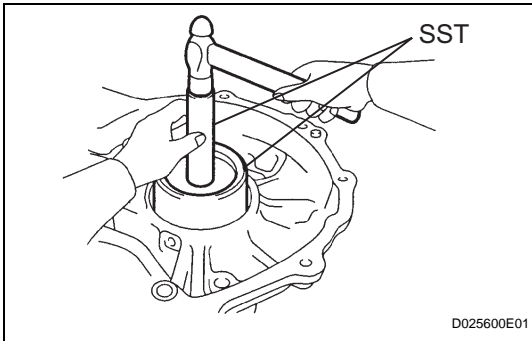
6. REMOVE FRONT DIFFERENTIAL SIDE GEAR

- (a) Remove the 2 front differential pinions, 2 pinion thrust washers, 2 front differential side gears and 2 side gear thrust washers from the differential case.



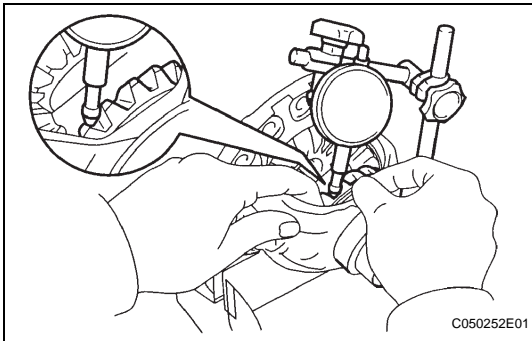
7. REMOVE TRANSAXLE HOUSING OIL SEAL

- (a) Using SST and a hammer, tap out the oil seal.
SST 09950-70010 (09951-07100), 09215-00013 (09215-00471)



8. REMOVE DIFFERENTIAL SIDE BEARING RETAINER OIL SEAL

- (a) Using SST, tap out the oil seal.
SST 09950-70010 (09951-07100), 09608-10010



INSPECTION

1. INSPECT BACKLASH

- (a) Using a dial indicator, inspect the backlash of the side gear.

Standard backlash:

0.05 to 0.20 mm (0.0020 to 0.0079 in.)

Standard thrust washer thickness:

1.625 mm (0.0640 in.)

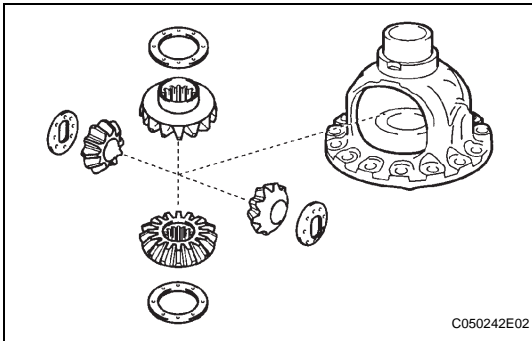
1.725 mm (0.0679 in.)

1.825 mm (0.0719 in.)

REASSEMBLY

1. INSTALL FRONT DIFFERENTIAL SIDE GEAR

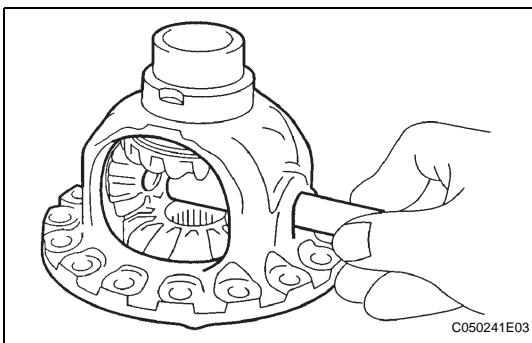
- (a) Apply ATF to the 2 front differential side gears, 2 side gear thrust washers, 2 front differential pinions and 2 pinion thrust washers and install them to the differential case.

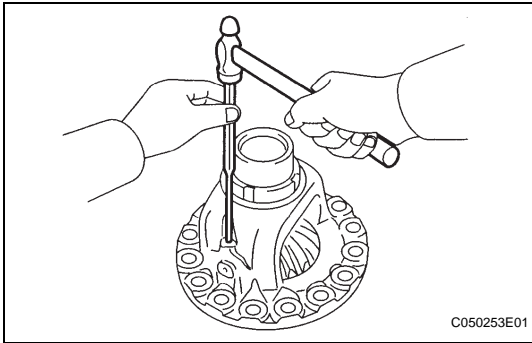


2. INSTALL NO. 1 FRONT DIFFERENTIAL PINION SHAFT

- (a) Coat the No. 1 front differential pinion shaft with ATF, and install it to the differential case.

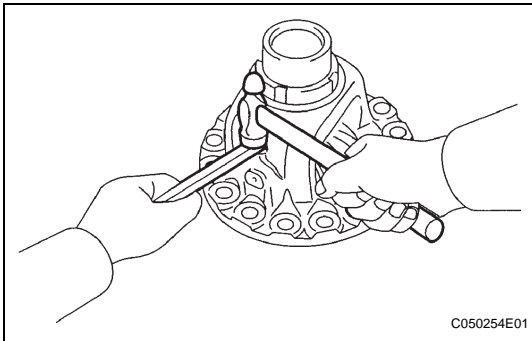
3. INSPECT BACKLASH (See page [AX-287](#))





4. INSTALL FRONT DIFFERENTIAL PINION SHAFT STRAIGHT PIN

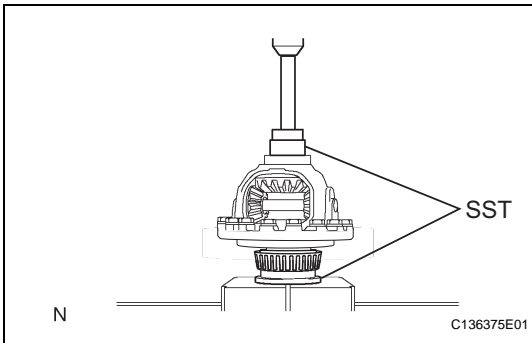
- (a) Using a pin punch and hammer, install the pinion shaft straight pin.



- (b) Using a chisel and hammer, stake the differential case.

NOTICE:

Stake the differential case after adjusting the backlash.



5. INSTALL FRONT DIFFERENTIAL CASE REAR TAPERED ROLLER BEARING

- (a) Using SST and a press, press in the front differential case front tapered roller bearing to the differential case.

SST 09316-12010, 09550-60010 (09951-00490), 09950-70010 (09951-07100, 09951-07150)

NOTICE:

- When replacing a bearing of the differential case, be sure to replace it together with the outer race.
- When replacing a bearing of the differential case, replace both the front and rear bearings together.
- Do not damage the bearing case when installing the bearing inner race.

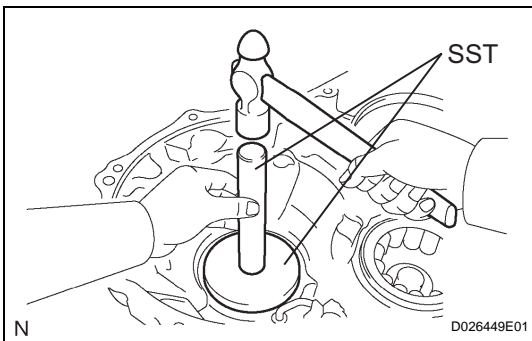
- (b) Install the front differential case rear shim to the transaxle housing.

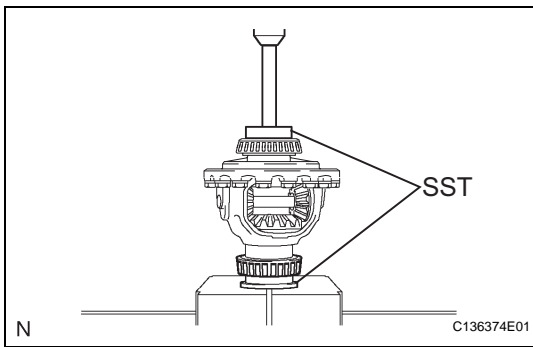
- (c) Using SST and a hammer, tap in the front differential case rear tapered roller bearing outer race to the transaxle housing.

SST 09950-70010 (09951-07100, 09951-07150), 09950-60020 (09951-00890)

NOTICE:

- When replacing the bearing, be sure to replace it together with the outer race.
- No clearance is allowed between the bearing and transaxle housing.





6. INSTALL FRONT DIFFERENTIAL CASE FRONT TAPERED ROLLER BEARING

- (a) Using SST and a press, press in the front differential case front tapered roller bearing to the differential case.

SST 09316-12010, 09550-60010 (09951-00490), 09950-70010 (09951-07100)

NOTICE:

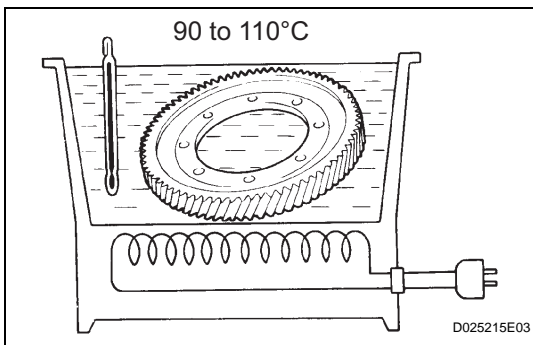
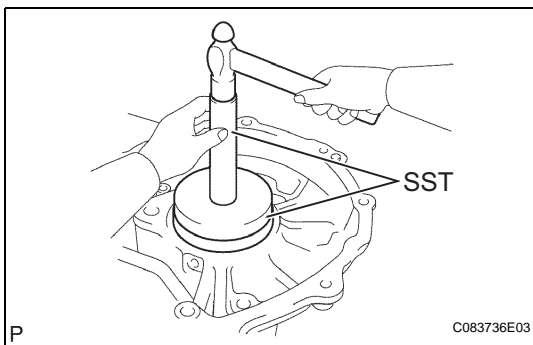
- When replacing a bearing of the differential case, be sure to replace it together with the outer race.
- When replacing a bearing of the differential case, replace both the front and rear bearings together.
- Do not damage the bearing case when installing the bearing inner race.

- (b) Using SST and a hammer, tap in the front differential case front tapered roller bearing outer race to the transaxle housing.

SST 09550-60010 (09951-00490), 09950-60020 (09951-00910)

NOTICE:

When replacing the bearing, be sure to replace it together with the outer race.



7. INSTALL FRONT DIFFERENTIAL RING GEAR

- (a) Using ATF and a heater, heat the front differential ring gear to 90 to 110°C (194 to 230°F).

NOTICE:

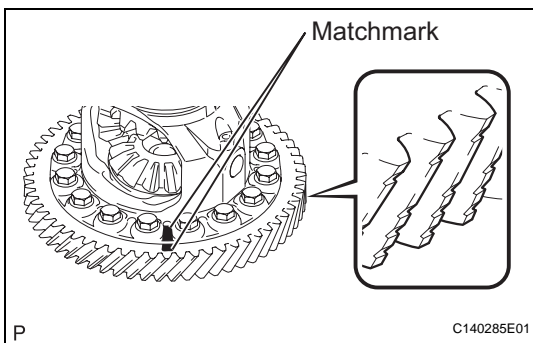
Do not heat the ring gear to more than 110°C (230.0°F).

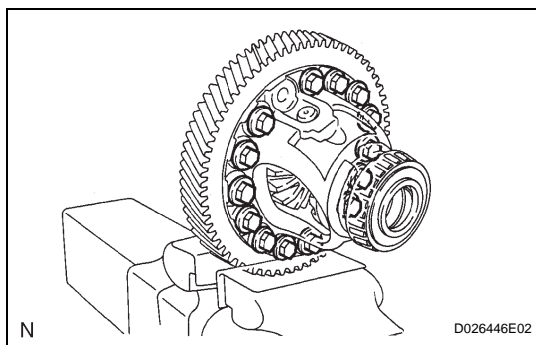
- (b) Clean the contact surface of the front differential case.

- (c) Align the matchmarks, and install the front differential ring gear case quickly.

NOTICE:

- Do not install the bolts while the ring gear is hot.
- Check the position and number of the grooves on each end face of the differential ring gear.



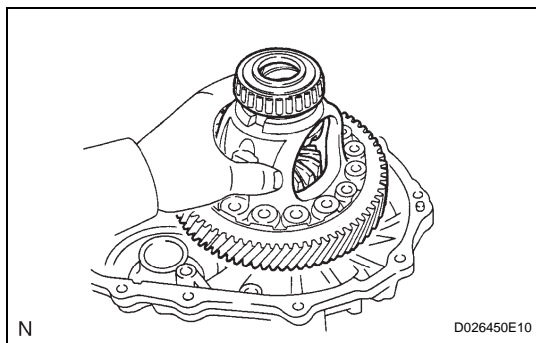


(d) Tighten the 14 bolts.

Torque: 95 N*m (969 kgf*cm, 70 ft.*lbf)

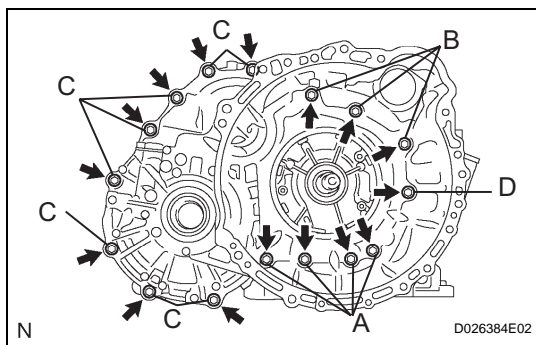
NOTICE:

Tighten the bolts a little at a time in a diagonal pattern.



8. ADJUST DIFFERENTIAL SIDE BEARING PRELOAD

(a) Install the differential assembly to the transaxle case.



(b) Clean the mating surfaces of the transaxle case and transaxle housing.

(c) Install the transaxle housing to the transaxle case and tighten them with the 16 bolts.

Torque: 22 N*m (224 kgf*cm, 16 ft.*lbf) for bolt A

29 N*m (295 kgf*cm, 21 ft.*lbf) for bolt B

29 N*m (295 kgf*cm, 21 ft.*lbf) for bolt C

22 N*m (226 kgf*cm, 16 ft.*lbf) for bolt D

HINT:

- Each bolt length is indicated below.

Bolt length:

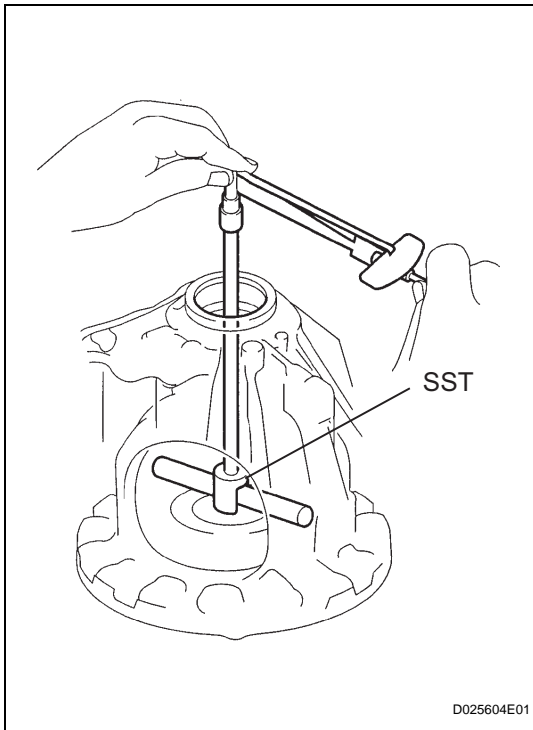
50 mm (1.969 in.) for bolt A

50 mm (1.969 in.) for bolt B

42 mm (1.654 in.) for bolt C

72 mm (2.835 in.) for bolt D

- Usually, bolt A is non-reusable. In this case, however, the bolt can be used after cleaning it.



- (d) Using SST, turn the differential assembly to the right and left 2 or 3 times to settle the bearing.

SST 09564-32011

- (e) Using SST and a torque wrench, measure the turning torque of the differential.

SST 09564-32011

Torque: Standard turning torque at 60 rpm

0.20 to 0.69 N*m (2.0 to 7.0 kgf*cm, 1.8 to 6.1 in.*lbf) for new bearing

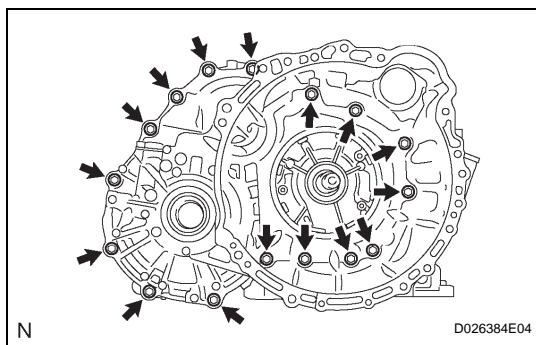
0.10 to 0.35 N*m (1.0 to 3.6 kgf*cm, 0.9 to 3.1 in.*lbf) for used bearing

HINT:

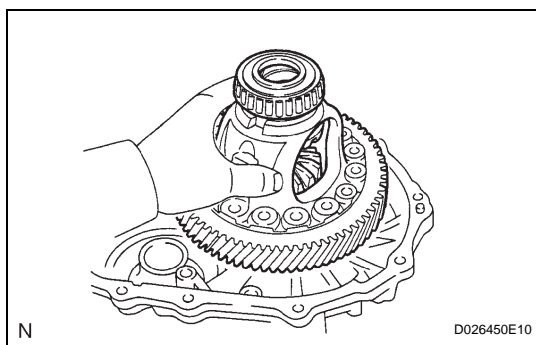
If the turning torque is not as specified, refer to the table below to select a front differential case rear shim so that the specified value is achieved.

Standard flange thickness

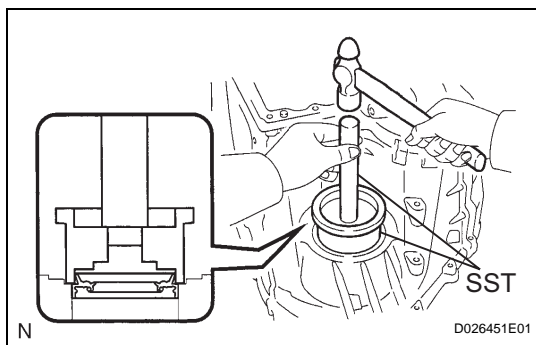
Mark	Thickness	Mark	Thickness
0	2.00 mm (0.0787 in.)	J	2.025 mm (0.07972 in.)
1	2.05 mm (0.0807 in.)	K	2.075 mm (0.08169 in.)
2	2.10 mm (0.0827 in.)	L	2.125 mm (0.08366 in.)
3	2.15 mm (0.0846 in.)	M	2.175 mm (0.08563 in.)
4	2.20 mm (0.0866 in.)	N	2.225 mm (0.08760 in.)
5	2.25 mm (0.0886 in.)	P	2.275 mm (0.08957 in.)
6	2.30 mm (0.0906 in.)	Q	2.325 mm (0.09154 in.)
7	2.35 mm (0.0925 in.)	R	2.375 mm (0.09350 in.)
8	2.40 mm (0.0945 in.)	S	2.425 mm (0.09547 in.)
9	2.45 mm (0.0965 in.)	T	2.475 mm (0.09744 in.)
A	2.50 mm (0.0984 in.)	U	2.525 mm (0.09941 in.)
B	2.55 mm (0.1004 in.)	V	2.575 mm (0.10138 in.)
C	2.60 mm (0.1024 in.)	W	2.625 mm (0.10335 in.)
D	2.65 mm (1.1043 in.)	X	2.675 mm (0.10531 in.)
E	2.70 mm (0.1063 in.)	Y	2.725 mm (0.10728 in.)
F	2.75 mm (0.1083 in.)	AA	2.775 mm (0.10925 in.)
G	2.80 mm (0.1102 in.)	AB	2.825 mm (0.11122 in.)
H	2.85 mm (0.1122 in.)	-	-



(f) Remove the 16 bolts and the transaxle housing.

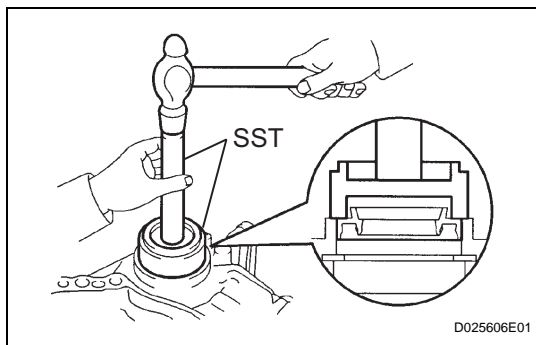


(g) Remove the differential assembly.



9. INSTALL TRANSAXLE HOUSING OIL SEAL

- (a) Using SST and a hammer, tap in a new oil seal.
SST 09223-15020, 09950-70010 (09951-07150)
- (b) Coat the lip of the oil seal with a little amount of MP grease.
Standard depth:
0 +0.5 mm (0 +0.0197 in.)



10. INSTALL DIFFERENTIAL SIDE BEARING RETAINER OIL SEAL

- (a) Using SST and a hammer, tap in a new oil seal.
SST 09710-30050, 09950-70010 (09951-07150)
- (b) Coat the lip of the oil seal with a little amount of MP grease.
Standard depth:
0 +0.5 mm (0 +0.0197 in.)